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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,865	05/10/2001	Bradley M. Hiben	CM04756H	5153
22917	7590	05/10/2005	EXAMINER	
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196			LEE, JOHN J	
			ART UNIT	PAPER NUMBER
			2684	

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/852,865

Applicant(s)

HIBEN ET AL.

Examiner

JOHN J LEE

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 and 20-22 is/are allowed.
- 6) ☒ Claim(s) 5-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments/Amendment*

1. Applicant's arguments/amendments received on November 8, 2004 have been carefully considered but they are not persuasive because the teaching of all the cited reference reads on all the rejected claims as set forth in the pervious rejection. Therefore, the finality of this Office Action is deemed proper.

Contrary to the assertions at pages 6 - 7 of the Arguments, claims 5-19 are not patentable.

Applicant should submit an argument under the heading "Remarks" pointing out disagreements with the examiner's contentions. Applicant must also discuss the references applied against the claims, explaining how the claims avoid the references or distinguish from them.

Re claim 5: Applicant argues that the combined teaching of Raith (US Patent number 6,498,936) and Sakoda et al. (US Patent number 6,532,223) read on all limitation in claim 5. Furthermore, Raith teaches that transmitting a multi-carrier signal comprising a plurality of time slots wherein each time slot comprises M sub-channels spanning a bandwidth  $B_M$  (Fig. 2, 26, column 26, lines 66 – column 27, lines 22, and column 2, lines 49 – column 3, lines 65, where teaches a channel carriers message comprises a plurality time slots including channels (sub-channels) and broadcast channels provide enhanced flexibility with respect to bandwidth allocation, sub-channelization). Raith teaches that transmitting control information, in one or more control sub-channels of the M sub-channels occupying a first portion of the bandwidth  $B_M$  (Fig. 2, 3, 26, column 26,

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lines 66 – column 27, lines 22, and column 2, lines 49 – column 3, lines 65, where teaches transmitting the control information (DCCH) to be transmitted within a time slot for occupying a first portion).

Applicant's attention is directed to the rejection below for the reasons as to why this limitation is not patentable.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1 – 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Raith (US Patent number 6,498,936) in view of Sakoda et al. (US Patent number 6,532,223).

Regarding **claim 1**, Raith teaches that receiving channel carriers message (multi-carrier signal see Fig. 17) comprising a plurality of time slots wherein each time slot comprises a plurality of sub-channels (Fig. 17 and column 18, lines 28 – column 19, lines 35, where teaches a channel carriers message comprises a plurality time slots including channels (sub-channels)). Raith teaches that

Regarding **claim 2**, Raith discloses that in the first decoding mode, the receiving device decodes the one or more sub-channels of the plurality of sub-channels, thereby further yielding payload information.

Regarding **claim 3**, Raith discloses that in the first decoding mode, the receiving device decodes only the one or more sub-channels of the plurality of sub-channels, which yield control information.

Regarding **claim 4**, Raith discloses that in the second decoding mode, the receiving device decodes the one or more sub-channels of the plurality of sub-channels, which yield control information and the one or more additional sub-channels of the plurality of sub-channels, which yield payload information (Fig. 4, 17, column 4, lines 1 – column 5, lines 30, and column 18, lines 28 – column 19, lines 35, where teaches decoding header portion (control information) and payload portion).

Regarding **claim 5**, Raith discloses that a method comprising a sending device (mobile station M2-M9 in Fig. 1) performing (see Fig. 4 and column 4, lines 1 – column 5, lines 30). Furthermore, Raith teaches that transmitting a multi-carrier signal comprising a plurality of time slots wherein each time slot comprises M sub-channels spanning a bandwidth  $B_M$  (Fig. 2, 26, column 26, lines 66 – column 27, lines 22, and column 2, lines 49 – column 3, lines 65, where teaches a channel carriers message comprises a plurality time slots including channels (sub-channels) and broadcast channels provide enhanced flexibility with respect to bandwidth allocation, sub-channelization). Raith teaches that transmitting control information, in one or more control sub-channels of the M sub-channels occupying a first portion of the bandwidth  $B_M$  (Fig. 2, 3, 26, column 26, lines 66 – column 27, lines 22, and column 2, lines 49 – column 3, lines 65, where teaches transmitting the control information (DCCH) to be transmitted within a time slot for occupying a first portion).

Raith does not exactly disclose the limitation “receiving/transmitting a multi-carrier signal”. However, Sakoda discloses the limitation “receiving/transmitting a multi-carrier signal” (see Fig. 4, 6 and column 4, lines 15 – column 5, lines 2, where teaches receiving multi-carrier signal comprises a plurality of timeslots including a plurality of sub-channels). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Raith system as taught by Sakoda. The motivation does so would be to achieve improving mobile service for saving mobile battery power in mobile communication system.

Regarding **claim 6**, Raith discloses that the sending device is a base station (Fig. 6) and a receiving device (Fig. 4) is a radio communication unit (column 4, lines 2 – 35 and Fig. 1).

Regarding **claim 7**, Raith teaches that decoding, by a receiving device, the control sub-channels to receive the control information (Fig. 4 and column 4, lines 1 – column 5, lines 30, where teaches receiving control information (control sub-channels) to decode for saving mobile battery).

Regarding **claim 8**, Raith teaches that decoding the control sub-channels comprises the receiving device decoding only the control sub-channels (Fig. 17 and column 18, lines 28 – column 19, lines 35).

Regarding **claim 9**, Raith and Sakoda disclose all the limitation, as discussed in claim 5. Furthermore, Raith further discloses that sending the payload information to the receiving device in one or more payload sub-channels of the M sub-channels occupying a

second portion of the bandwidth  $B_M$  (Fig. 3, 8, column 13, lines 59 – column 14, lines 41, and column 2, lines 49 – column 3, lines 65).

Regarding **claim 10**, Raith teaches that decoding, by the receiving device, the payload sub-channels to receive the payload information (Fig. 8 and column 13, lines 59 – column 14, lines 41, where teaches the mobile station checks whether the control information indicating payload data contained, and if correctly received, decodes the payload channels).

Regarding **claim 11**, Raith and Sakoda disclose all the limitation, as discussed in claims 5 and 9. Furthermore, Raith further discloses that decoding the payload sub-channels comprises the receiving device decoding the full bandwidth  $B_M$  (Fig. 2, 26, column 26, lines 66 – column 27, lines 22, and column 2, lines 49 – column 3, lines 65).

Regarding **claim 12**, Raith teaches that sending, via the control sub-channels, a message informing the receiving device to decode at least the one or more payload sub-channels to receive the payload information (Fig. 8, column 13, lines 59 – column 14, lines 41, and column 4, lines 54 – column 5, lines 30, where teaches transmitting the control information (DCCH) to be transmitted within a time slot for occupying a first portion and receiving payload sub-channel to decode by informing).

Regarding **claim 13**, Raith and Sakoda disclose all the limitation, as discussed in claims 5 and 9. Furthermore, Raith further discloses that determining, by the sending device (base station), if the payload information can be communicated via the control sub-channels (Fig. 4, 17, column 4, lines 1 – column 5, lines 30, and column 18, lines 28 – column 19, lines 35). Raith teaches that if the payload information can be

communicated via the control sub-channels, sending the payload information to the receiving device (mobile station) via the one or more control sub-channels (Fig. 4, 17, column 4, lines 1 – column 5, lines 30, and column 18, lines 28 – column 19, lines 35).

Regarding **claim 14**, Raith and Sakoda disclose all the limitation, as discussed in claim 5. Furthermore, Raith further teaches that decoding, by the receiving device, the control sub-channels to receive the payload information (Fig. 4, 17, column 4, lines 1 – column 5, lines 30, and column 18, lines 28 – column 19, lines 35, where teaches decoding header portion (control information) and payload portion).

Regarding **claim 15**, Raith and Sakoda disclose all the limitation, as discussed in claims 5 and 8.

Regarding **claim 16**, Raith and Sakoda disclose all the limitation, as discussed in claims 5 and 9.

Regarding **claim 17**, Raith and Sakoda disclose all the limitation, as discussed in claims 5 and 10.

Regarding **claim 18**, Raith and Sakoda disclose all the limitation, as discussed in claims 5 and 11.

Regarding **claim 19**, Raith and Sakoda disclose all the limitation, as discussed in claims 5 and 12.

***Allowable Subject Matter***

4. Claims 1-4 and 20-22 are allowed.



Claims 1-4 and 20-22 are allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claims 1-4 and 20-22.

As recited in independent claims 1 and 20, none of the prior art of record teaches or fairly suggests that receiving device performing the steps operating in a first decoding mode that comprises a low power mode to decode one or more sub-channels of the plurality of sub-channels of multi-carrier signal, thereby yielding control information, and if the control information includes indicia of payload directed to the receiving device, operating in a second decoding mode to decode one or more additional sub-channels of the plurality of sub-channels of multi-carrier signal, thereby yielding payload information, and together with combination of other element as set forth in the claims 1-4 and 20-22. Therefore, claims 1-4 and 20-22 are allowable over the prior art of records.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

***Conclusion***

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed (703) 308-9051, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label  
"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters,  
Alexandria, VA.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00 pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay Aung Maung**, can be reached on **(571) 272-7882**. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L  
April 29, 2005

John J Lee

  
**NAY MAUNG**  
SUPERVISORY PATENT EXAMINER